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PART (III) S/N 09/ 872-413  
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Claim 15 has been amended along the same lines as claim 7, and is not obvious from the prior art combination applied against it. This is because the amendment adds limitations regarding displaying user interface mechanism that can be used to define a functional model, a dynamic model and a presentation model, none of which can be defined in the prior art references.

Claim 16 depends from claim 15 and is not obvious for the same reasons claim 15 is not obvious. A few voluntary amendments have been made to the language of claim 16 to conform its terminology to the amended terminology of the parent claim.

Claim 17 has been voluntarily amended to improve its form and to specify that the step of receiving user input that defines instances of primitives that define said functional model. Since claim 17 claims a process for displaying user interface mechanisms through which data can be entered to define primitives of a functional model, claim 17 distinguishes over the prior art because the prior art combination applied against the claims does not include teachings of modelling of functional models as part of the modelling process. Therefore, the prior art does not include teachings of presentation of user interface mechanisms that can be used to enter data that define instances of primitives of a functional model of a desired computer program.

Claim 18 is similar to claim 17 and is not obvious for the same reasons claim 18 is not obvious. The claim defines a process to display user interface mechanisms for defining a functional model and then receiving user input through those mechanisms which define primitives that define the desired functional model.

Claim 19 is similar to claim 15 except that it defines a computer programmed to present user interface mechanisms by which a user can enter data defining primitives which define classes of objects and attributes of those classes and mathematical or logical expressions which define conditions and effects which act upon the values of variable attributes of said classes so as to define the object model and functional model (the functionality) of a desired computer program being modelled. Since the prior art applied against the claim does not teach modelling a functional model and the knowledge needed to make the claimed invention is not present in the prior art nor suggested by the prior art, claim 19 is not obvious. One skilled in the art would not perceive any likelihood of success in solving the problem the invention solves from making the combination the Examiner applied since even if the combination could be made technically, it would still be lacking an important element of knowledge needed to make the claimed invention: the

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ability to define a functional model which specified the desired functionality of the desired computer program.

Claim 20 is the same as claim 19 but elements of programming of the computer have been added to specify a computer programmed to automatically convert the primitives into formal language statements and to use the rules of syntax and semantics to validate the formal language statements to ensure they are complete, correct and not ambiguous, and to prompt the user to edit the primitives to correct any errors which were found.

Claim 21 has been amended in response to the prior art rejection to specify that the user interface mechanisms the computer is programmed to display allow the user to enter primitives that define an object model, a functional model and a dynamic model. That alone distinguishes the claim over the prior art since the prior art does not display user interface mechanisms to define a functional model or a dynamic model. No presentation model is included because it may be desirable to write this part of the computer program by hand to obtain more flexibility in the user interface. The claim has been further amended to define the programming of said computer to control it to receive user input defining instances of said primitives, automatically convert those instances into formal language statements in a mathematically based formal language which has precise, predetermined rules of syntax and semantics which are such that said rules can be used to validate the entire collection of formal language statements to make sure they define a complete, correct and not ambiguous specification of a computer program to be automatically written, the part being defined including specification of code which implements said object model, said functional model and said dynamic model and said presentation model. The prior art does not teach tools which allow a user to automatically convert primitives entered by a user into formal language specifications of a functional model and a dynamic model and to automatically validate said formal language statements and prompt a user to correct the primitives if errors are found.

Claim 22 depends from claim 21 and has been amended voluntarily to remove the original limitations which are now redundant and to substitute specification of programming of said computer which controls it to automatically translate said validated formal language specification into working computer code.

Claim 23 defines a computer readable medium which stores a data structure which contains data which define a functional model. This is not taught by the prior art

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because the prior art combination does not teach modelling a functional model or storing a data structure of data which defines the functional model primitives entered by the user.

Claim 24 has been amended in response to the prior art rejection to make it clear that the user interface mechanisms displayed allow a user to enter primitives which define a functional model and a dynamic model of the conceptual model of the desired computer program. The amendments also make it clear that these primitives are automatically converted to formal language statements which define a formal language specification which is validated using the precise, predetermined rules of syntax and semantics.

Respectfully submitted,

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